

## Temperature Indicators

### Tempilstik®

Tempil's industrial melting point standards are simple, reliable and guaranteed accurate within 1%. Tempilstik® technology was developed to meet the demand for measuring surface temperatures during preheat, interpass and postweld heat treatment temperatures. When the Tempilstik® mark melts, the temperature has been reached. Over 100 temperature ratings available between 100° F (38° C) and 2500° F (1371° C). Lot numbered for NIST traceability in accordance with ISO 10012-1.

#### Applications

A few of the hundreds of uses for Tempilstik® temperature indicators include: Determining surface temperatures during welding and metal fabrication including preheat, interpass, postweld heat treatment, annealing and stress relieving. Determining operating temperatures of bearings, transformers, steam traps, molds, PC board preheaters, motors, electronic components, hydraulic systems, commercial irons, hot plates & heat exchangers.

#### How to Use

When working below 700° F (371° C) on relatively rough surfaces, where prolonged heating is not required, the simplest method is to mark the workpiece before heating begins. The dry opaque Tempilstik® mark will change to a distinct melted mark; this phase change will occur when the temperature rating of the selected Tempilstik® has been reached.

**CAUTION:** Disregard any color change that may occur during heating. This has no significance. It is only the melting of the Tempilstik® mark that indicates when the rated temperature has been reached.

At temperatures above 700° F (371° C) or under prolonged heating, the Tempilstik® mark may evaporate or be absorbed. Under these conditions, stroke the workpiece with the selected Tempilstik® from time to time during the heating operation. When the rated temperature has been reached, it will leave a liquid smear. This method should also be used if a smooth surface is involved, where the hard Tempilstik® chalk will not leave a mark. (If it is necessary to mark a smooth surface before heating, use Tempilaq®.)

#### Cleaning

For temperature ratings of 650° F (343° C) or below, the Tempilstik® mark can be removed (if it has not been charred) with alcohol or water; for ratings above 650° F (343° C), use water only. If the mark has been heated well above the rated temperature and has become charred, an abrasive procedure may be required.

#### Standard Packaging

Tempilstik® temperature indicators are 5" long and come in adjustable aluminum holders with pocket clip. 10 indicators per box, either loose or in individual blister packs. Bar-coded per NWSA guidelines. Approximate weight per box of 10: 1/2 lb.

#### Part Number System

##### Tempilstik® Fahrenheit

Part No. TS and degree

##### Tempilstik® Celsius

Part No. TSC and degree

##### Tempilstik® blister packs

Part No. TSB and degree



### Fahrenheit Ratings for Tempilstik®

Part No.	° F	° C	Part No.	° F	° C	Part No.	° F	° C	Part No.	° F	° C	Part No.	° F	° C
TS0100	100	38	TS0213	213	101	TS0331	331	166	TS0600	600	316	TS1500	1500	816
TS0106	106	41	TS0219	219	104	TS0338	338	170	TS0650	650	343	TS1550	1550	843
TS0109	109	43	TS0225	225	107	TS0344	344	173	TS0700	700	371	TS1600	1600	871
TS0113	113	45	TS0231	231	111	TS0350	350	177	TS0750	750	399	TS1650	1650	899
TS0119	119	48	TS0238	238	114	TS0363	363	184	TS0800	800	427	TS1700	1700	927
TS0125	125	52	TS0244	244	118	TS0375	375	191	TS0850	850	454	TS1750	1750	954
TS0131	131	55	TS0250	250	121	TS0388	388	198	TS0900	900	482	TS1800	1800	982
TS0138	138	59	TS0256	256	124	TS0400	400	204	TS0932	932	500	TS1850	1850	1010
TS0144	144	62	TS0263	263	128	TS0413	413	212	TS0950	950	510	TS1900	1900	1038
TS0150	150	66	TS0269	269	132	TS0425	425	218	TS1000	1000	538	TS1950	1950	1066
TS0156	156	69	TS0275	275	135	TS0438	438	226	TS1022	1022	550	TS2000	2000	1093
TS0163	163	73	TS0282	282	139	TS0450	450	232	TS1050	1050	566	TS2100	2100	1149
TS0169	169	76	TS0288	288	142	TS0463	463	239	TS1100	1100	593	TS2200	2200	1204
TS0175	175	79	TS0294	294	146	TS0475	475	246	TS1150	1150	621	TS2300	2300	1260
TS0182	182	83	TS0300	300	149	TS0488	488	253	TS1200	1200	649	TS2400	2400	1316
TS0188	188	87	TS0306	306	152	TS0500	500	260	TS1250	1250	677	TS2500	2500	1371
TS0194	194	90	TS0313	313	156	TS0525	525	274	TS1300	1300	704			
TS0200	200	93	TS0319	319	159	TS0550	550	288	TS1400	1400	760			
TS0206	206	97	TS0325	325	163	TS0575	575	302	TS1450	1450	788			

### Centigrade Ratings for Tempilstik®

Part No.	° F	° C	Part No.	° F	° C	Part No.	° F	° C	Part No.	° F	° C	Part No.	° F	° C
TSC0040	104	40	TSC0110	230	110	TSC0180	356	180	TSC0250	482	250	TSC0500	932	500
TSC0045	113	45	TSC0115	239	115	TSC0185	365	185	TSC0260	500	260	TSC0560	1040	560
TSC0050	122	50	TSC0120	248	120	TSC0190	374	190	TSC0270	518	270	TSC0600	1112	600
TSC0055	131	55	TSC0125	257	125	TSC0195	383	195	TSC0280	536	280	TSC0625	1157	625
TSC0060	140	60	TSC0130	266	130	TSC0200	392	200	TSC0290	554	290	TSC0650	1202	650
TSC0065	149	65	TSC0135	275	135	TSC0205	401	205	TSC0300	572	300	TSC0680	1256	680
TSC0070	158	70	TSC0140	284	140	TSC0210	410	210	TSC0320	608	320	TSC0700	1292	700
TSC0075	167	75	TSC0145	293	145	TSC0215	419	215	TSC0340	644	340	TSC0800	1472	800
TSC0080	176	80	TSC0150	302	150	TSC0220	428	220	TSC0350	662	350	TSC0850	1562	850
TSC0085	185	85	TSC0155	311	155	TSC0225	437	225	TSC0370	698	370	TSC0900	1652	900
TSC0090	194	90	TSC0160	320	160	TSC0230	446	230	TSC0400	752	400	TSC1010	1850	1010
TSC0095	203	95	TSC0165	329	165	TSC0235	455	235	TSC0420	788	420	TSC1100	2012	1100
TSC0100	212	100	TSC0170	338	170	TSC0240	464	240	TSC0460	860	460	TSC1200	2192	1200
TSC0105	221	105	TSC0175	347	175	TSC0245	473	245	TSC0475	887	475			

## Min/Max Double Tempilstik®

Tempilstik® Min/Max Indicators allow for higher-rated and lower-rated testing in a single, handy, double-ended holder. Available as a custom kit of six min/max holders, each with two kit-size sticks. You specify your preferred ratings from Tempil's range of 100 to 650° F, 38 to 343° C.



Part No.	° F	° C	Part No.	° F	° C	Part No.	° F	° C	Part No.	° F	° C	Part No.	° F	° C
T100/38	100	38	T225/107	225	107	T350/177	350	177	T536/280	536	280	T1150/621	1150	621
T104/40	104	40	T230/110	230	110	T356/180	356	180	T550/288	550	288	T1157/625	1157	625
T109/43	109	43	T239/115	239	115	T363/184	363	184	T554/290	554	290	T1200/649	1200	649
T119/48	119	48	T248/120	248	120	T374/190	374	190	T572/300	572	300	T1250/677	1250	677
T122/50	122	50	T250/121	250	121	T375/191	375	191	T575/302	575	302	T1292/700	1292	700
T125/52	125	52	T256/124	256	124	T383/195	383	195	T600/316	600	316	T1300/704	1300	704
T131/55	131	55	T257/125	257	125	T388/198	388	198	T608/320	608	320	T1350/732	1350	732
T140/60	140	60	T263/128	263	128	T392/200	392	200	T650/343	650	343	T1400/760	1400	760
T150/66	150	66	T266/130	266	130	T400/204	400	204	T662/350	662	350	T1450/788	1450	788
T158/70	158	70	T269/132	269	132	T410/210	410	210	T700/371	700	371	T1472/800	1472	800
T163/73	163	73	T275/135	275	135	T413/212	413	212	T750/399	750	399	T1500/816	1500	816
T167/75	167	75	T284/140	284	140	T419/215	419	215	T752/400	752	400	T1550/843	1550	843
T169/76	169	76	T288/142	288	142	T425/218	425	218	T800/427	800	427	T1600/871	1600	871
T175/79	175	79	T294/146	294	146	T428/220	428	220	T850/454	850	454	T1650/899	1650	899
T176/80	176	80	T300/149	300	149	T437/225	437	225	T860/460	860	460	T1700/927	1700	927
T182/83	182	83	T302/150	302	150	T446/230	446	230	T900/482	900	482	T1800/982	1800	982
T185/85	185	85	T306/152	306	152	T450/232	450	232	T932/500	932	500	T1850/1010	1850	1010
T188/87	188	87	T311/155	311	155	T455/235	455	235	T950/510	950	510	T1900/1038	1900	1038
T194/90	194	90	T313/156	313	156	T463/239	463	239	T977/525	977	525	T1950/1066	1950	1066
T200/93	200	93	T320/160	320	160	T475/246	475	246	T1000/538	1000	538	T2000/1093	2000	1093
T203/95	203	95	T325/163	325	163	T482/250	482	250	T1022/550	1022	550			
T206/97	206	97	T329/165	329	165	T488/253	488	253	T1040/560	1040	560			
T212/100	212	100	T338/170	338	170	T500/260	500	260	T1050/566	1050	566			
T213/101	213	101	T344/173	344	173	T518/270	518	270	T1100/593	1100	593			
T219/104	219	104	T347/175	347	175	T525/274	525	274	T1112/600	1112	600			

## Tempstik® Test Kit

Tempstik® Test Kit consists of twenty 2-1/2" temperature indicating crayons, each with its own holder, with ratings from 125° F/ 52° C to 800° F/ 427° C. For welders who frequently weld different types of heat treated alloy steels in various thicknesses, and need to know precise preheat and interpass temperatures.

**Part No. TSTK**



## Temperature Indicators

### Tempilaq° G

Tempilaq° G is made of the same materials as Tempilstik°. Tempilaq° G is available in the same 102° temperature ratings as Tempilstik° and carries the same  $\pm 1\%$  accuracy. Lot numbers on each bottle allow it to be traced to the specific batch of raw material from which it was made.

#### How to Use

Apply a thin coating of the appropriate Tempilaq° G to a clean, dry surface. Tempilaq° G will dry rapidly to a dull, opaque film. As heat is applied and the rated temperature is achieved, the Tempilaq° G film will liquefy. Upon cooling, re-solidified mark will be distinctly different than the original mark.

**CAUTION:** Disregard any color change that may occur during heating.

This has no significance. It is only the melting of the Tempilaq° G mark that indicates when the rated temperature has been reached. Upon cooling, the melted Tempilaq° G mark will solidify to a glossy-transparent appearance.

Tempilaq° G can be diluted to any desired consistency without changing its melting point. The thinner the coating used, the quicker the reaction time will be when temperature has been reached. Use only Tempilaq° G thinner, and only the thinner recommended for the specific temperature rating being used.

#### Cleaning

For temperature ratings of 650° F (343° C) or below, the Tempilstik° mark can be removed (if it has not been charred) with alcohol or water; for ratings above 650° F (343° C), use water only. If the mark has been heated well above the rated temperature and has become charred, an abrasive procedure may be required.



### Typical Applications

Tempilaq° G should be used on surfaces such as polished metal, glass, plastics, rubber, fabrics or electronic components. It should also be used for making larger marks for viewing at a distance. Other applications include dielectric heatsealing, postforming plastic laminate, and annealing polished metal surfaces.

Part No.	2 oz.	
	° F	° C
TL0175	175	79
TL0200	200	93
TL0225	225	107
TL0250	250	121
TL0275	275	135
TL0300	300	149
TL0313	313	156
TL0325	325	163
TL0350	350	177
TL0363	363	184
TL0375	375	191
TL0400	400	204
TL0425	425	218
TL0450	450	232
TL0475	475	246
TL0488	488	253
TL0500	500	260
TL0525	525	274
TL0550	550	288
TL0575	575	302
TL0600	600	316
TL0650	650	343

Part No.	2 oz.	
	° F	° C
TL0700	700	371
TL0750	750	399
TL0800	800	427
TL0850	850	454
TL0900	900	482
TL0950	950	510
TL1000	1000	538
TL1022	1022	550
TL1050	1050	566
TL1100	1100	593
TL1150	1150	621
TL1200	1200	649
TL1250	1250	677
TL1300	1300	704
TL1400	1400	760
TL1450	1450	788
TL1500	1500	816
TL1600	1600	871
TL1700	1700	927
TL1800	1800	982
TL1900	1900	1038
TL2000	2000	1093

Part No.	° F	° C	UM
TL0175QT	175	79	1 quart
TL0275PT	275	135	1 pint
TL0950PT	950	510	1 pint

### Tempilabel°

- Self-adhesive temperature indicating labels.
- Each label consists of heat sensitive indicator(s) sealed under transparent window(s).
- As the rated temperature(s) are reached, the indicator(s) color change from light gray to black.
- Color change is one-way; irreversible.
- Temperature from 100° F to 500° F (38° C to 260° C) are available.
- Shapes, sizes and types available are numerous and can satisfy a wide range of application requirements.

### Series 4 Tempilabel°

- 4 temperature ratings per label.
- Label size: .087" L x 1.75" W
- Unit: Available in packs of 10 or rolls of 500 (4 rolls minimum)

Part No.	° F	° C	° F	° C	° F	° C	° F	° C
TLL4A100	100	38	110	43	120	49	130	54
TLL4A130	130	54	140	60	150	66	160	71
TLL4A170	170	77	180	82	190	88	200	93
TLL4A190	190	88	200	93	210	99	220	104
TLL4A220	220	104	230	110	240	116	250	121
TLL4B125	125	52	150	66	175	79	200	93
TLL4B225	225	107	250	121	275	135	300	149
TLL4C100	100	38	150	66	200	93	250	121
TLL4C200	200	93	250	121	300	149	350	177

#### Benefits:

- **Inexpensive-** alternative for temperature measurement.
- **Simple-** easy to apply self-adhesive label; no gauges or electronics.
- **Accurate-** within  $\pm 2\%$  rated temperature or better.
- **Guaranteed-** accuracy certification is available.
- **Reliable-** monitor surface temperature continuously.
- **Calibration-** Tempilabels° are always in calibration.
- **Permanent Record-** easily removed after use providing documentation warranty claims and inspection or quality control reports.
- **Traceable-** production lot numbered.

### Series 21 Tempilabel°

- Label size: .050" square
- Unit: Packs of 210 and rolls of 1000

Part No.	° F	° C	Part No.	° F	° C
TLL-21-100	100	38	TLL-21-220	220	104
TLL-21-110	110	43	TLL-21-230	230	110
TLL-21-120	120	49	TLL-21-240	240	116
TLL-21-130	130	54	TLL-21-250	250	121
TLL-21-140	140	60	TLL-21-260	260	127
TLL-21-160	160	71	TLL-21-270	270	132
TLL-21-170	170	77	TLL-21-280	280	138
TLL-21-180	180	82	TLL-21-290	290	143
TLL-21-190	190	88	TLL-21-300	300	149
TLL-21-200	200	93	TLL-21-400	400	204
TLL-21-210	210	99	TLL-21-500	500	260

## Bloxide / Anti-Heat / Lube Pads

### Bloxide® Rust Preventative

Bloxide® is a weldable rust preventative that insures x-ray quality welds. The aluminized coating acts as an oxygen barrier that protects against rust. It also forms aluminum oxide in the weld puddle which reduces porosity and pinholing.

The use of Bloxide® eliminates recleaning of sub assemblies prepared for welding even after they have been in outside storage for several months. It is an excellent weldable primer paint, and leaves no objectional residue or slag. Bloxide® is free of lead, sulfur, zinc, cadmium, mercury, chlorine or other halogens which makes it safe for the nuclear fabrication industry. It will also withstand temperatures up to 800° F.

#### How to Use

Bloxide® can be applied by brush or spray. It requires no special training, equipment, or precautions for effective application. Bloxide® is quick drying, forming a tack-free, tenacious film in minutes. Coverage is approximately 800-1,000 sq. ft. per gallon.

#### Typical Applications

Bloxide® can be used on all steels, and is compatible with most welding processes. It should definitely be considered for x-ray quality work.

- Type Approved by ABS- American Bureau of Shipping and by DNV- Det Norske Veritas for Marine and Offshore Fabrication applications.



Part No.	UM
BLAR	12 oz. aerosol
BLGL	1 gallon
BLQT	1 quart
BL5GL	5 gallon

### Anti-Heat®

Anti-Heat® is a protective heat-sink compound that confines heat to the welding, brazing or soldering zone, protecting adjacent areas from undesirable heat build-up. It minimizes risk of heat damage, prevents discoloration, warping, buckling or other distortion of light-gauge metals.

#### How to Use

Anti-Heat® is easy to apply. Simply spread it on right from the can. Tube will fit standard caulking gun. It is harmless to the skin, odorless, non-toxic and will not stain the base metal. To clean, just wipe off excess with water.

#### Typical Applications

Anti-Heat® can be used effectively to protect thin gauge metals from objectionable heat inflow due to welding, brazing, soldering or other heat sources. Will also protect components, parts etc. from heat related damages, such as the gasket of a valve being welded to pipes, or paint on automobiles while being locally repaired by brazing, soldering or welding.



Part No.	UM
AHTB	12 oz. tube
AHQT	1 quart
AHGL	1 gallon
AH5GL	5 gallon



### LUBE-MATIC®

LUBE-MATIC® products are engineered to reduce tip and liner wear, burnback, wire jams, and promote smoother arc feed. The solution is to clean and lubricate at the time of the weld. By doing this, the wire, tips and liners realize a 60% reduction in wire drag, providing long life and smooth arc feed. Cuts rust and dirt. Pad & clip for concentric cleaning.

#### LUBE-MATIC® Liquid

Cuts dirt and reduces wire drag 60%. Use to re-lube black pads and liners.

Part No.	Description
007040	5 oz.
007050	46 oz



#### Black Lube Pads

For all types of steel wire. Not recommended for aluminum wire. Pre-treated with LUBE-MATIC® Liquid.

- Six pads per pack.

Part No. 007060



#### Red Kleener Pads

For all wire, all the time. Excellent for aluminum.

- Six pads per pack.

Part No. 007061



For maximum torch life, use together.

- Combo-Pack (1 red, 1 black)

Part No. 007062





## Paintpen™ / Scriber Tools

### Tempil™ Paintpen™

Tempil™ Paintpen™ is a valve action felt tip marker. Paintpen™ waterborne acrylic paint formulations are in compliance with CONEG regulations, Clean Air Act, SARA legislation and California VOC regulations.

- Contains NO solvents and NO ODC's.
- Tip is washable, can't dry out.
- Simply shake well; gently depress tip until saturated with paint. There is no ball point to freeze.
- Permanently marks metals, plastic, wood, cardboard, glass, and most other surfaces - even wet or oily. It is non-hazardous, non-flammable and environmentally safe. It is waterproof and quick drying.
- Available in 4 bright lead-free colors (black, red, white, yellow).
- 12 markers per box/ 144 per case.

Tempil paintpen



Part No.	Description
TPPBLK	Paintpen Black
TPPRED	Paintpen Red
TPPWHT	Paintpen White
TPPYEL	Paintpen Yellow



### Scriber Hooks and Picks



RELEASE OR INSTALL HEADLIGHT SPRINGS.



REMOVE SMALL FUSES, STUCK PARTS.



SEPARATE SMALL WIRES IN AWKWARD PLACES.



RETRIEVE LOST NUTS, BOLTS, WASHERS, TOOLS FROM TIGHT AREAS.



REMOVE SPRINGS FROM OIL BURNER RELAY BOXES.



FOR DIE LAYOUTS.



Scriber has straight and 90° angle points for marking in awkward places.

Heat-treated, bright polished, high carbon needle steel points. For the technician or craftsman who needs a sharp marking tool that works in cramped quarters, as well as, in regular applications. Knurled aluminum handle gives sure grip.

Double Pointed Scriber

- Overall length 9-1/2"
- Std. pkg. 1 dz.
- Pkg. wt. 1 lbs., 2 oz.

Part No. 1810



Hook is used for removing springs, wadding, washers, "O" rings — prying stuck gaskets loose.

Handy steel hook for any tool box; repairmen, technicians, service personnel. 7" long, has strong steel shaft and hook, knurled aluminum handle. Magnetic end retrieves dropped nuts, bolts, washers and other ferrous parts.

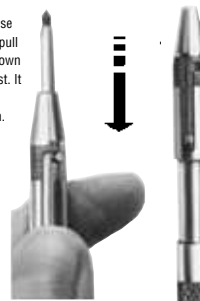
Utility Packing Hook with magnetic pick-up handle

- Overall length 7"
- Std. pkg. 1 dz.
- Pkg. wt. 15 oz.

Part No. 1820



To expose tip just pull cover down and twist. It locks in position.



To protect tip just turn cover clockwise. It automatically "clicks" shut!

Sharp tungsten carbide tip cuts into hard surfaces, leaves clear mark on metal, glass, plastics and tools.

All-in-one "Push-Click" SAFETY COVER on tungsten carbide with magnetic pick-up.

Pocket Scriber

- Overall length 5-7/16"
- Std. pkg. 1 dz.
- Pkg. wt. 15 oz.

Part No. 1830